

the CNC from February and March are labeled "from nursery" and were likely reared from larvae found in greenhouses.

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ERYNNIS FUNERALIS OVIPOSITS ON EXOTIC ROBINIA PSEUDOACACIA IN WESTERN ARGENTINA

Additional key words: Fabaceae

Butterflies are adapting to exotic host plants worldwide, including high elevations in the Andes (Shapiro 2006) and in the South American subantarctic (Shapiro 1997). This note reports the apparently widespread use of the naturalized North American tree Black Locust (*Robinia pseudoacacia* L. (Fabaceae)) as an oviposition substrate and presumptive host plant of a presumably native skipper in western Argentina.

In late afternoon on 24 January 2008 at Chos Malal, Neuquen Province, I watched a female *Erynnis funeralis* (Scudder & Burgess) lay three eggs in succession on coppice growth of *R. pseudoacacia* in town. Alerted to this behavior, I then observed another female in a different part of town lay one egg on this plant three hours later. I subsequently saw repeated instances of oviposition, always on growth less than 4m tall and often in shade, at Las Lajas, Neuquen; in the city of Mendoza, Mendoza Province; and around Calingasta and Barreal, San Juan Province, all over the next three weeks, for a total of >30 ovipositions by at least 8 different females. Though the species was common, I never observed oviposition on other substrates.

Pastrana (2004) includes this plant as a host based on Aravena (1983), adding that that record might be based on reared material provided by J. Williamson from the Province of LaPampa. Scott (1986) lists this as a host of *E. zarucco* (Lucas), at that time considered conspecific, in the United States. He also lists *Robinia neomexicana* A. Gray as a host of *E. funeralis*. Although alfalfa (*Medicago sativa* L., Fabaceae) is the most widely-cited host of *E. funeralis* in both the United States and Argentina, and is regularly visited as a nectar source, I have never seen any trace of oviposition or pre-oviposition behavior directed toward it in 30 years' experience in Argentina.

Black Locust is widely naturalized, having escaped from urban cultivation in Argentina, and is routinely found as a participant in synthetic woody riparian communities recruited from the horticultural flora in irrigated zones in the arid and semiarid west. *Erynnis funeralis* is a consistent inhabitant of these communities as well as appearing in urban gardens and parks; its distribution in western Argentina is broadly concordant with that of *Robinia pseudoacacia*. A significant element of the western regional fauna is similarly restricted to

irrigated zones in association with naturalized weedy hosts (Shapiro, unpublished data). It is not known if this butterfly is native to the region or is itself naturalized; it is the only member of its genus in the Southern Cone of South America.

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COMMENTS ON LARVAL SHELTER CONSTRUCTION AND NATURAL HISTORY OF *URBANUS PROTEUS* LINN., 1758 (HESPERIIDAE: PYRGINAE) IN SOUTHERN FLORIDA.

Additional key words. Egg stacking, hostplant, oviposition, clutch size.

The Bean Leaf Roller (*Urbanus proteus* Linn.) is a common and widespread skipper (Hesperiidae) found from southern United States south to Argentina (Smith *et al.* 1994). Early observations on its natural history (Scudder 1889) have been supplemented with details from various parts of its range (Greene 1970, 1971a; Kendall 1965; Moss 1949; Riley 1975; Skinner 1911; Smith *et al.* 1994; Young 1985), particularly in Florida (Quaintance 1898), where it is a pest on leguminaceous crops (Green 1971b; Quaintance 1898; Watson & Tissot 1942) and where there exist documented seasonal movements (Urquhart & Urquhart 1976). Like most skippers (Greeney & Jones 2003), the larvae of *U. proteus* construct and live in shelters made from the leaves of the food plant, but only two authors have described or pictured these shelters in any detail (Quaintance 1898; Young 1985). In fact, detailed knowledge of larval shelter construction for most skippers is weak or nonexistent for all but one widely distributed North American species, *Epargyreus clarus* Cramer, 1775 (Jones *et al.* 2002; Lind *et al.* 2001; Weiss *et al.* 2003). As shelters may prove useful in resolving phylogenies (Greeney & Jones 2003), here we present our observations of shelters from a population of *U. proteus* in southern Florida.

We made observations at Burns Lake Campground (25°53'N, 81°13'W) in Big Cypress National Preserve, Collier County, Florida. On 30 December 2005, at 14:15, we observed a female *U. proteus* ovipositing on the under surface of a leaflet of *Vigna luteola* (Jacq.) Benth. (Leguminaceae). She laid three dull yellow eggs in an evenly spaced row, and then flew out of sight.

This observation prompted us to search foliage of other *V. luteola* plants, and resulted in the discovery of 26 additional clutches of hatched and unhatched eggs.

At hatching, larvae consume only the top portion of the eggs (pers. obs.), and we were able to use the remaining egg fragments to determine clutch size from all 27 clutches (mean = 2, SD = 1.1, range = 1–5). Most clutches were located on the under surface of mature leaves (n = 24), but occasionally on leaf petioles (n = 3). Within a clutch, eggs were placed adjacent to (touching) or up to 1 mm from other eggs. One exception was a clutch of three eggs found stacked end to end such that only the bottom egg was attached to the leaf surface (Fig. 1). Similarly, Quaintance (1898) reported a clutch size of 1–6 and noted that eggs were frequently laid in a stacked fashion, 3–4 eggs high. Young (1985), however, recorded only single egg clutches in Costa Rica.

In addition to the eggs, we found a total of 50 larvae representing the following instars: 36 first, 8 second, 3 third, 2 fourth, and 1 fifth. We removed larvae from their shelters and carefully determined their ages using the prior experience of HFG with the larvae of related species. We also watched as 3 first-instars constructed new shelters after removal from their original shelters. By examining shelter construction and comparing our observations to previously constructed shelters, we determined that larvae build 3–5 shelters as they develop, and that these belong to three shelter types. First through third instars were found inside shelters built by excising a small triangular portion of the leaf margin and creasing it into a tent-shaped lid (Greeney & Jones 2003; group III, type 10, two-cut stemmed